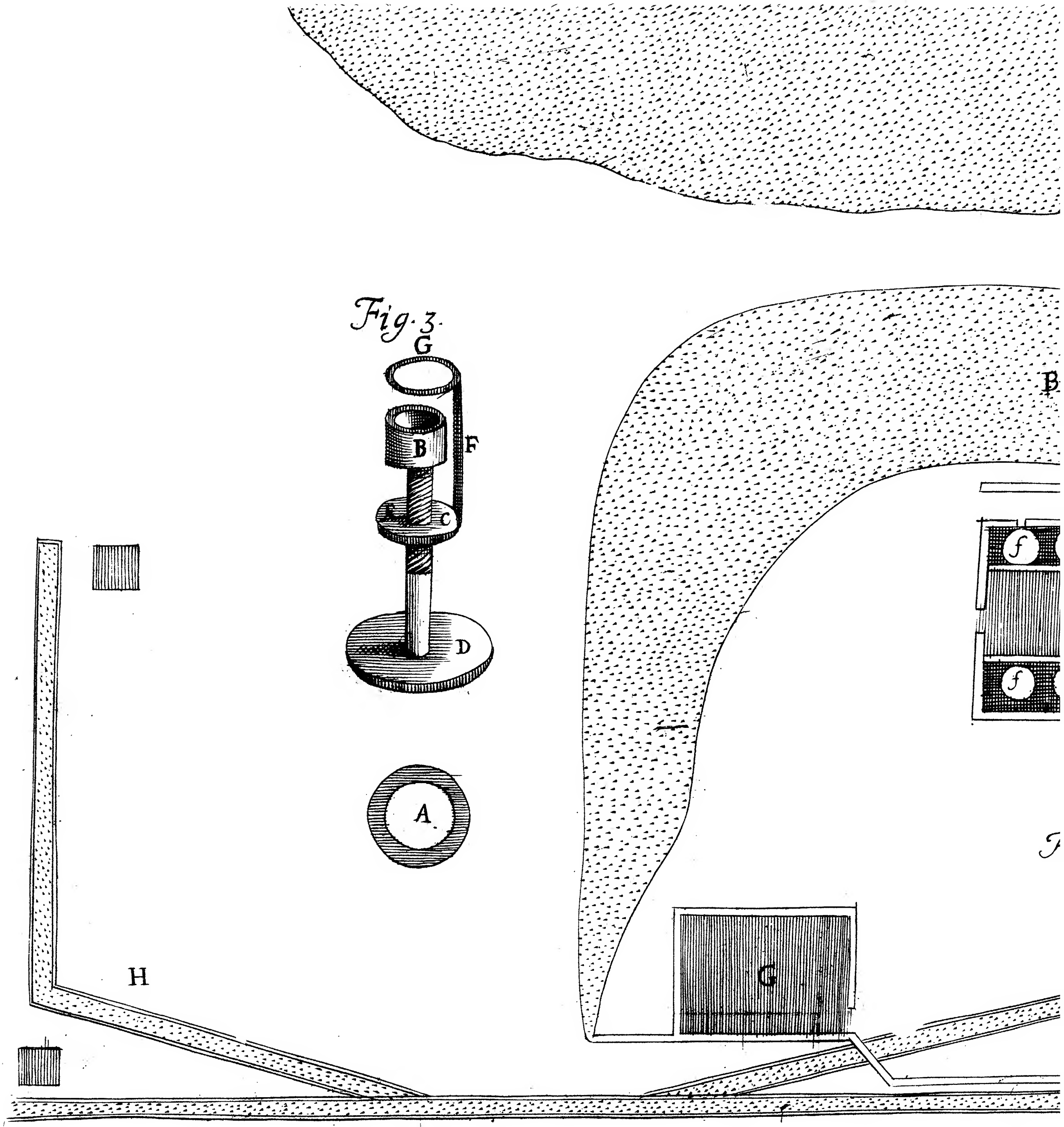
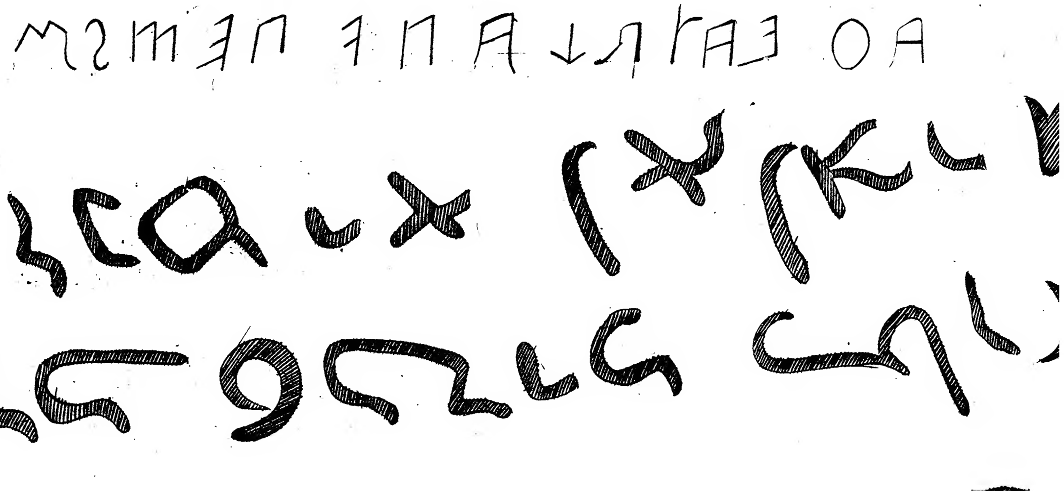
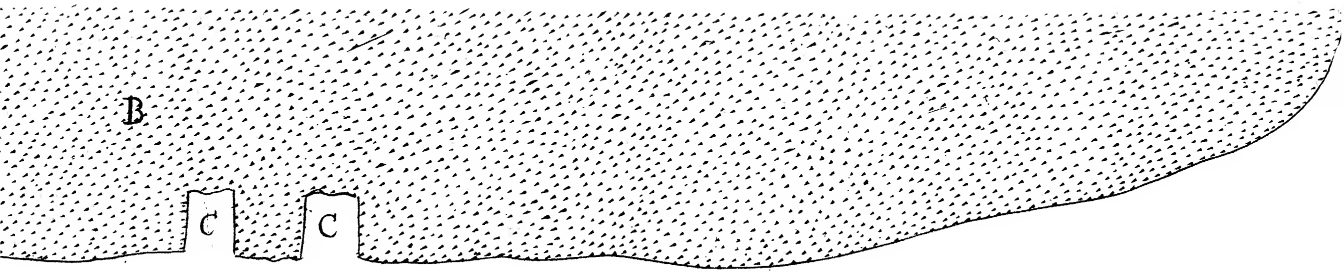


Fig. 3.

Fig. 2.





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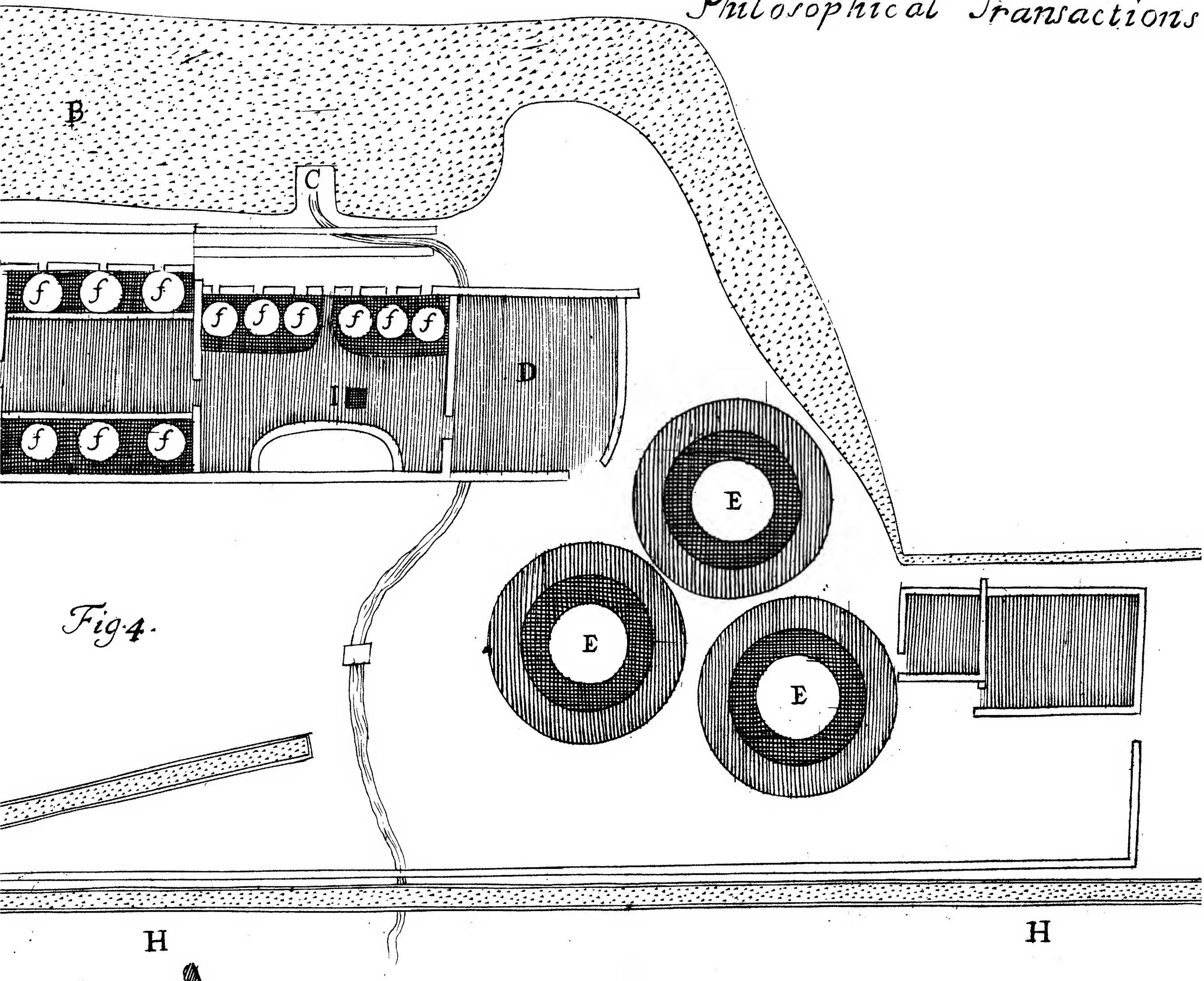


Fig. 4.

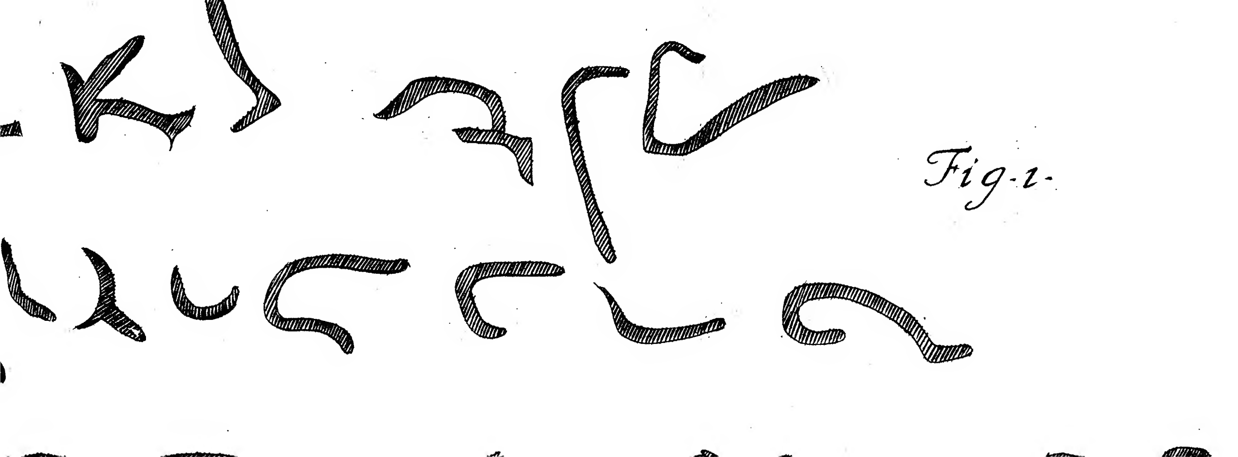
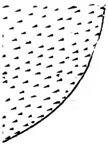


Fig. 1.



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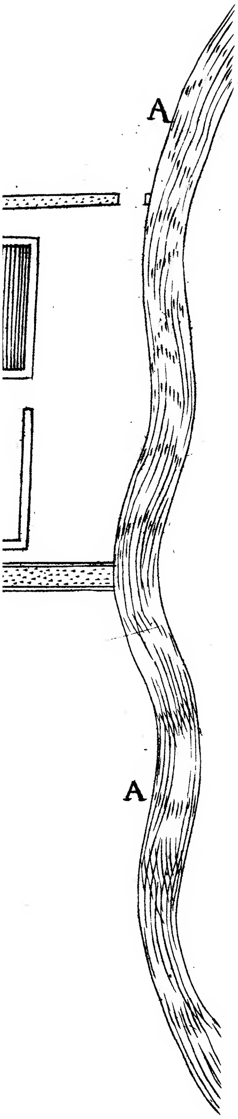

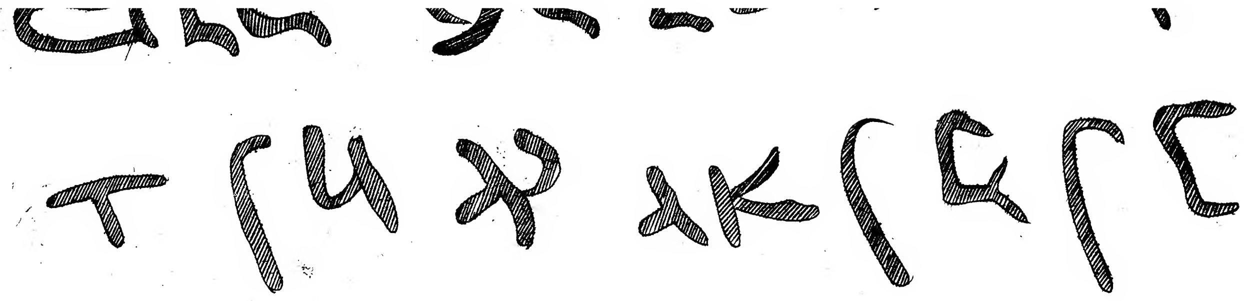

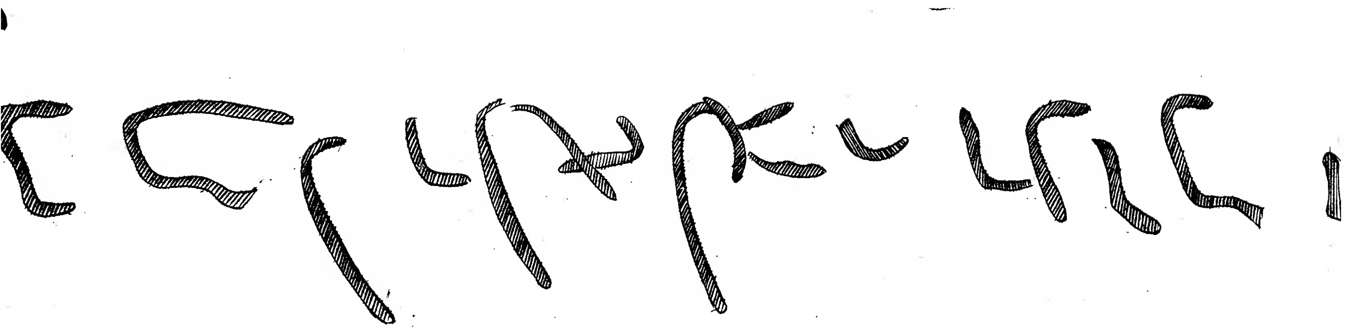

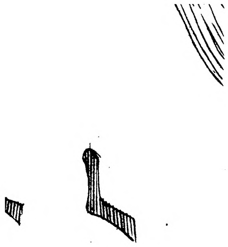

lately found in A whole Town of 'em with Streets, they joyning like Houſes one to another, each having their *Columbaria. Ollæ oſſaria*, with Paintings, Inſcriptions in Latin and the Old *Etruſcan* Language and Characters, which was taken by him and cut in Braſs.—— Seignior *Fabretti* told me he had at leaſt Fifty large Inſcriptions in that Language ſent him from ſeveral places in *Tuſcany*, and gave me two, one in the *Etruſcan* Characters, the other *Roman*, and withal ſaid, that he deſign'd to leave them out of the Book he was publiſhing, becauſe he muſt be forc'd to have them done in Braſs, or have Characters cut on purpoſe, which was too chargeable, and the words were unintelligible.

On the backſide of the Inſcription, I ſend you another Inſcription on an Old Urn in the *Etruſcan* Language the Character ſeems to be not much unlike the *Runick*.

See the Figure of the Palmyren *Inſcription* Fig. 1. *and the* Etruſcan, Fig. 2.

VI. *A Letter from Mr.* Stephen Gray, *from* Canterbury, *May the 12th 1697, Concerning making Water ſubſervient to the viewing both near and diſtant Objects, with the Deſcription of a Natural reflecting Microſcope.*

I ſend you here a ſhort Account of what has been the ſucceſs of my attempts, to make ſmall Portions of Water ſubſervient to the viewing both near and diſtant Objects, together with the Diſcription of a Natural Reflecting Microſope.

Drops of Fair Water being let fall on a piece of Plain Glaſs, form themſelves into *Plano Convexes*, having a Convexity proportionable to the heights, from which they deſcend, from a greater height, a leſs, from a leſs, a greater degree of Convexity. I applied ſome of theſe as Reading Glaſſes for ſingle Words of ſmall Letters, as on the Globes and Maps, and found no other Inconveniency, then that the Fluidity of the Water obliges one to keep the Glaſs Horizontal, which I after deviſed a way to Remedy.

I took a ſufficient quantity of Izing-Glaſs and diſſolved it in Water over the Fire, and whilſt 'twas warm I dipt a ſtick into the Solution, and let ſome Drops of it fall on the Glaſs as before, and in a Quarter of an Hour they acquire a Conſiſtency, that permits them to be held in any Poſition, and tho' they are not altogether ſo tranſparent, yet this is little or no impediment to their uſe. The drops of this Solution are more exactly defined then thoſe of Common Water, having their edges exactly Circular, and one may make them of a much longer Focus then thoſe. I applied ſome of theſe lentes to a hole in a darkned Room, and found they rendred the Images of Objects with but an indifferent diſtinctneſs.

A thin flat Ring of Braſs, not exceeding 4 Tenths of an Inch Diameter in its interior Circle being cemented to a plain Piece of Glaſs, and filled with Water or the Solution now mentioned, then by preſſing the Finger into it, till what is ſuperfluous be taken off; there will be formed a plano Concave which may ſerve as an Eye Glaſs to a Proſpective, or to any other optical uſe Concave Glaſſes are applicable.

I have tried what would be the ſucceſs of Combining Portions of Water by the help of Braſs Rings, and plain pieces of Glaſs, to give them their true Figure and requiſite

requiſite apertures, and inſerted them at the ends of Tubes of ſevearl lengths; and find, that tho' theſe natural lentes may ſerve as Eye Glaſſes, yet when uſed as Object ones either to Teliſcopes or double Miſcroſcopes: their Effects will not compenſate the trouble there is in uſing them.

I ſhall now proceed to give you the Deſcription of my Natural Reflecting Microſcope.

*A Fig.*3. Repreſents a ſmall flat Ring of Braſs, whoſe rior Circle muſt not much exceed 4 Tenths of an Inch Diameter, and about one thirtieth of an Inch thick; this we may call the Frame or Cell of the Glaſs, it muſt be prepared for uſe after the following manner. Take a ſmall Globule of Quickſilver and diſſolve it in a few drops of *Aquafortis*, to which you may add ten parts of common Water, dip the end of a ſtick in this Liquor and rub the inward Circle of the Ring with it, ſo it will have acquired a Mercurial Tincture, and being wiped dry, be fit for uſe. Then let it be laid on the Table, and pour a drop of Quickſilver within it, which preſs gently with the ball of the Finger, and it will adhear to the Ring, then cleanſe it with a Hares foot, and you will have a *Convex Speculum*. Take up the Ring and *Speculum* carrying it Horizontal, and lay it on the brims of the hollow Cilinder *B*. ſo will the Mercury become a Concave Reflecting *Speculum*, which from the ſmallneſs of the Sphære of which it ſeems to be a Section, may be uſed as a Microſcope. The Cilindrick Veſſel *B* has a Screw hole at bottom, by which it is ſcrewed to the top of the Pedeſtal *C D*, *C E F G*. is the Supporter of the Object Plate, which as you ſee may be raiſed higher, or let lower as there is occaſion by the ſcrew on the Pedeſtal: The Object Plate muſt be of Glaſs cemented to the Ring *G*.

This

This Inſtrument with a little variation may be made a Reflecting Microſcope of Water, if inſtead of the Ring *G* there be only a ſmall Arm with a hole in it to receive a drop of Water, and the Cylindrick Veſſel *B* be either taken away or ſcrewed on with its bottom upwards, ſo as to make an Object Plate, and this will be found more convenient for viewing the Textures of Opacous Object, then that deſcribed in N° 223 of the Tranſactions, which is more fit for Fluid and Tranſparent ones.

I have begun ſome Experiments towards a way of making a large Concave *Speculum* for Burning Glaſſes, and have proceeded ſo far, as to find Materials that will naturally receive their true Figure, though of many Feet in Diameter, but have not yet overcome the difficulties of giving them a good Poliſh.

VII. *Extract of two Letters, the one to Dr.* William Gibbons, *Fellow of the College of Phyſitians* London; *the other to Mr.* Nicholas Staphorſt, *Operator in Chymiſtry at* Apothecaries-*Hall, from Mr.* Edward Coles, *giving an account of a Red Colour produced by mixture of a Sulphureous Spirit with a Volatile Alcali.*

I in making ſeveral Chymical Experiments found a Sulphureous Spirit, which being mixt with a Volatile *Alcali*, ſuch as Spirit of *Sal Armoniack*, or Urin, &c. gives it a red Colour in a moment, and does the ſame without any effervefcence, tho' both the Liquors were clear

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